**ABSTRACT**

The complex tris(ethylenediamine)cobalt(III)chloride oxalate trihydrate [Co(en)3] Cl(C2O4)Æ3H2O crystallizes in the monoclinic space group C2/c with the following unit cell parameters a = 19.9318 (13), b = 9.3344 (4), c = 19.0881 (13) A˚ b = 96.846(3), Z = 8. The crystal structure was solved by direct methods and refined by full matrix least squares procedures to a final R value of 0.0314 for 4330 observed reflections. The reported cobalt complex is six co-ordinated through amine nitrogen with distorted octahedral geometry. There are uncoordinated chloride and oxalate ions along with the water molecules. In-vitro antimicrobial activity was studied against various test organisms and found to be good. From in-vitro cytotoxic activity of the synthesized complex, the IC50 value was found to be 55.85 lg/ml